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by the Jesuit Father Alonso Barcena about the year 1600, and at present belongs to the library of General B. Mitre. The Toba is a dialect of the Mocobi-Abipon family of languages, the people having received the name Toba from an artificial enlargement of the forehead. On this account they are also called *Caras* and *Frentones*. The grammar of this rather vocalic idiom is followed by Barcena's Spanish-Toba vocabulary, revised in 1888, with the aid of an Indian called Lopez; the words are accented, but the orthography is rather old-fashioned. The same vocabulary is reproduced again with the Toba word first, followed by the Spanish and the English signification. The volume forms part of the 'Linguistic Library of the Museum of La Plata,' which institution is built close to the city of Buenos Aires; the museum has placed Lafone at the head of its archeological and linguistic department.

ALBERT S. GATSCHET.

BUREAU OF AMERICAN ETHNOLOGY.

SCIENTIFIC NOTES AND NEWS.

THE New York Academy of Sciences opened its sessions on October 2d. The Academy meets in four sections: astronomy and physics, biology, geology and mineralogy, and anthropology and psychology, which meet, respectively, on successive Monday evenings each month until the end of May. In addition to these regular sessions there are five public lectures; a presidential address, this year by Professor Henry F. Osborn, on February 26th; a lecture on psychology on October 30th; one on biology on January 29th; one on geology on March 30th, and one on astronomy and physics on April 30th. Men of science visiting New York are invited to attend the meetings which are held in the rooms of the American Society of Mechanical Engineers, 12 West 31st Street.

THE monument erected in memory of Johannes Müller, was unveiled at Coblenz on October 7th.

ON October 15th a statue of M. F. Tisserand will be unveiled at Nuits-Saint-Georges.

A STATUE of John Ericsson, the engineer, who designed the Monitor, has been unveiled at Gothenburg, Sweden.

SIR JOHN LUBBOCK, Bart, has been appointed

a delegate from the London Chamber of Commerce to the International Commercial Congress now meeting in Philadelphia.

WE have already referred to the decision of the corporation of the City of Glasgow to appoint a bacteriologist in connection with the Health Department of the City, who would work in conjunction with the medical officer of health and the medical officers of the fever hospitals. The *British Medical Journal* states that there has been considerable competition for this post, and the appointment has just been given to Dr. R. M. Buchanan, a graduate of Glasgow University, who was formerly assistant to the professor of pathology in the University, and more recently professor of medical jurisprudence and public health in Anderson's College. Dr. Buchanan will devote his whole time to his new duties, and will have a suitable laboratory at his disposal in the Sanitary Chambers.

DR. ARTHUR WILLEY has been appointed lecturer on biology in Guy's Hospital.

WE learn from the *Educational Times* that Mr. R. P. Paranjpye, the Indian Senior Wrangler, has been awarded a special scholarship of £200 by the Secretary of State, partly as a recognition of his remarkable and distinguished success, and partly to enable him to take the M. A. degree.

It is announced that the date of the opening of the New York Zoological Gardens is fixed for October 25th. At the present time, there have been completed the reptile house, bear dens, flying-cage, prairie dogs' village, aquatic rodents' lake, beaver pool, duck pond, mammal house, burrowing rodents' dens, wolf den, fox den, and buffalo range.

Nature states that the application of the Jenner Institute of Preventive Medicine for permission to alter the memorandum of association so as to enable the Institute to avail itself of Lord Iveagh's gift of 250,000*l.* was granted by Mr. Justice Cozens Hardy on September 13th.

THERE will be a Civil Service examination in the State of New York, for which applications must be filed not later than October 30th, for an examiner in the commission, requiring a knowledge of steam, electrical and mechanical

engineering with a salary of \$1,200 to \$1,400 per annum, and for the position of assistant horticulturist in the Geneva experiment station with a salary of \$50 per month.

A TELEGRAM has been received at the Harvard College Observatory from Professor Kreutz at Kiel Observatory, stating that Comet E. was observed by Cohn at Königsberg, Oct. 1.2767 Greenwich Mean Time, in R. A. $16^h 31^m 0^s.7$ and December $-4^{\circ} 39' 50''$. Professor J. E. Keeler at Lick Observatory telegraphs that Comet Giacobini was observed by Perrine, Oct. 2.6658 Greenwich Mean Time, in R. A. $16^h 32^m 59^s.7$ and Dec. $-4^{\circ} 12' 18''$. The check word shows an error in the telegram which will not largely affect the position.

WE learn from *Nature* that the Director of the Marine Observatory of San Fernando announces that the Spanish Minister of Finance has given instructions that all instruments intended for observations of the eclipse of the sun on May 27, 1900, are to be admitted free of duty.

PROFESSOR W. A. SETCHELL, Dr. W. L. Jepson, Mr. L. E. Hunt and Mr. A. A. Lawson, of the University of California have returned to Berkeley from a botanical expedition to Unalaska. Dr. Jepson studied the flowering plants, Professor Setchell and Mr. Lawson the flowerless plants, while Mr. Hunt, who is of the Civil Engineering Department, determined altitudes and took the photographs of plant communities, etc. The party remained at Unalaska for eight weeks and carried out its work as planned, collecting thoroughly in the neighborhood of Unalaska Bay, making extensive field notes, and securing a fairly full collection of photographs. Professor Setchell left Unalaska for about three weeks, on a trip to St. Michael and Cape Nome, collecting plants of all kinds and making notes as to points of distribution and ecology. Returning, the party went from Unalaska to Sitka along the coast, collecting at Unga, Karluk, Kodiak, Orca, Juneau, and Sitka. They were thus able to trace many plants of the shores along a considerable portion of the Alaska coast, note the changes in habit and also the difference in altitudinal distribution. There is a very considerable amount of mate-

rial accumulated and it will not be known until it is carefully worked over, how much of it is new or just to what extent it will throw light on matters of distribution. A very considerable amount of attention was paid to the matter of plant communities in Unalaska, the amount of woody vegetation present, and a number of such subjects. The lack of trees or even of high shrubs was very noticeable at Unalaska, and in fact along the entire shore of Alaska to the westward, as well as their sudden appearance on the eastern shores of Kadiak Island along North Strait and from there on to the eastward. This seems to be a difficult matter to explain, but it certainly seems to be due to the existence of conditions unfavorable to the germination of the seeds and the growth of seedlings, since trees, when planted or protected during the early stages of existence, thrive on the Island of Unalaska, as several small groves of the White Spruce, whose trees were brought from the Island of Kadiak by the Russians, have not only grown into full sized trees, but also produce cones and seeds. The collections of marine algæ, taken in connection with other collections made in Alaska, Washington and California and Mexico during the last four or five years will, it is hoped, indicate the limits of the various algal floras of the Pacific Coast of North America, when they are properly determined and tabulated, and will afford the basis for some exact inquiry into the causes of demarcation. One of the most gratifying features of the trip was the liberal way in which the U. S. Coast and Geodetic Survey, The Alaska Commercial Company, The Pacific Steam Whaling Company, and the Pacific Coast Steamship Company granted facilities for transportation and collecting.

Nature states that after four months' work on his yacht, Dr. H. C. Sorby, F.R.S., has returned to Sheffield with many hundred specimens of marine animals, preserved by his new methods, so as to show life-like character and natural color.

THE attempt recently made by the U. S. Coast and Geodetic Survey to fix a permanent tidal plane for the Chesapeake Bay has proved successful. During the last fiscal year about

forty stations were occupied, at fifteen of which simultaneous tidal observations extending over one complete lunation were obtained. Mr. E. D. Preston, in the *National Geographic Magazine* for October, summarizes the work done as follows: The average tide for the entire bay is about one foot, possibly less. For Old Point Comfort we have two and one-half feet; for the mouth of the Potomac, one foot; for Washington, three feet; Richmond, three feet; Elk River, at the head of the bay, two feet, and Annapolis less than one foot. The wind effect, however, is sometimes more than the total tide. For example, at Baltimore, the wind effect may amount to three feet, while the tide proper, uninfluenced by local disturbances, is only one-third as much. The small range at Annapolis is due partly to the change in width of the bay, but principally to an interference at this point between the incoming and outgoing tidal waves. When the crest of the southbound movement reaches the mouth of the Severn river it meets the northbound wave from the capes, and a partial neutralization of the vertical motion of the water takes place.

THE International Commercial Congress held in connection with the Export Exposition of the Philadelphia Museums opened on October 12th. Many of the subjects that will be discussed are of scientific interest.

THE Royal Photographic Society is holding its 44th annual exhibition in London this week. There are about 330 exhibits of an artistic character and about 100 of a technical and scientific character. None of the latter, however, represent any important advance.

THE American Public Health Association will hold its annual meeting at Minneapolis, beginning October 31st.

THE second International Congress on Hypnotism will be held in Paris from August 12th to 16th, 1900, under the presidency of Dr. Jules Voisin.

THE Field Columbian Museum, Chicago, has arranged a course of eight lectures on science and travel to be given on Saturdays at three o'clock, as follows:

Oct. 7. 'The Cliff Dwellers of Colorado, Utah, Ari-

zona and New Mexico,' by Mr. E. H. Cooper, Denver, Colo.

Oct. 14. 'Hawaii,' by Mr. R. J. Bennett, Chicago.

Oct. 21. 'A Cruise Among the Antilles—Puerto Rico,' by Dr. C. F. Millspaugh, Curator, Department of Botany, Field Columbian Museum.

Oct. 28. 'A Cruise among the Antilles—Cuba,' by Dr. C. F. Millspaugh, Curator, Department of Botany, Field Columbian Museum.

Nov. 4. 'Some Curious Insects,' by Mr. E. B. Chope, Assistant in Department of Zoology, Field Columbian Museum.

Nov. 11. 'Fishes and Fishing on the Pacific Coast,' by Dr. S. E. Meek, Assistant Curator, Department of Zoology, Field Columbian Museum.

Nov. 18. 'The Katchinas of the Hopi Indians,' by Rev. H. R. Voth, Missionary to the Hopi Indians.

Nov. 25. 'The Eskimo,' by Dr. George A. Dorsey, Curator, Department of Anthropology, Field Columbian Museum.

AN inspector of timber has been created by the Government of the Dominion of Canada. With the view of preserving the remaining forests upon Dominion lands and Indian reserves from destruction by fires and other destructive agencies, and of encouraging the reproduction of forest trees; and also, as settlement is rapidly progressing in all parts of Manitoba and the Northwest Territory, with the object of making an immediate inspection of the country, to ascertain what tracts should be set apart for timber reserves, before they are encroached upon by settlers, the position of Chief Inspector of Timber and Forestry has been created. The headquarters of the inspector will be at Ottawa and his salary will be \$2,500 per annum.

A SALISBURY correspondent writes to the London *Times* that the feeling throughout South Wilts is strongly in favor of the Government acquiring Stonehenge at a reasonable price for the nation. At a recent meeting of the Wilton Town Council, it was decided to petition the Government in favor of acquiring the ancient monuments, and the council are calling upon the county authorities and the archeological and antiquarian society to support the petition. Several members of the council questioned very much whether Sir Edmund Antrobus has the power of selling the ground around Stonehenge, which has been open to

the public from time immemorial. There are several roads and footpaths in close proximity to the monument, and the council were unanimous in their opinion that the right of the public to the use of those roads should be maintained. Stonehenge is a source of considerable revenue to Salisbury and district, and the prevailing opinion is that the monument should be acquired by the State.

IN 'Memoires et Compte Rendus des Travaux de la Société des Ingenieurs Civils de France' an extended account is given by M. Chalon of the progress made in that country by 'Metal déployé,' since its introduction from the United States in 1898. The first machine producing Golding's new product was installed in June, 1898, and six are now unequal to the requirements of that country. The process and manufacture are very fully described. The metal used is a steel containing very little C., less than 0.7 per cent Mn., a trace of S. and of Si., and 0.1 per cent. O.

MR. GIFFORD PINCHOT, Forester of the U. S. Department of Agriculture, in the last number of the *National Geographic Magazine*, gives an interesting explanation of the method by which longleaf pine seedlings protect themselves against forest fires. In addition to bark which is not uncommonly as thick as the wood (the whole diameter being thus two-thirds bark and one third wood), the young trees add a device specially adapted for their safety when growing amid long grass, with which they are almost always associated. "During the first four or five years the long leaf seedling reaches a height of but four or five inches above the ground; but while the stem during these early years makes little progress, the long needles shoot up and bend over in a green cascade which falls to the ground in a circle about the seedling. Not only does this barrier of green needles itself burn only with difficulty, but it shades out the grass around the young stem, and so prepares a double fire-resisting shield about the vitals of the young tree. Such facts explain why the fire which has restricted the growth of evergreen oaks in parts of Florida, for example, has made a pure forest of pines in a region where the reproduction of the oaks is

phenomenally rapid wherever the annual fires cannot run."

A PRIZE of 100,000f. has been founded by the heirs of the late Mr. Anthony Pollok, of Washington, to be awarded during the Universal Exhibition which is to be held in Paris in 1900, to the inventor of the best apparatus for the saving of life in case of maritime disaster. The prize is open to universal competition. This sum is now in deposit with the American Security and Trust Company of Washington, D. C., and will be paid over to the successful competitor when a decision shall have been rendered by an appointed jury, and formally communicated to the Secretary of State of the United States, through the Commissioner-General of the United States to the International Exhibition of 1900. The juror selected on behalf of the United States is Lieutenant William S. Sims, U. S. N., Naval Attaché of the Embassy of the United States at Paris. In considering the award the jury will be governed by the following conditions: (1) The total amount of the prize may be awarded to a single individual on condition that the invention is of sufficient practical value and importance to justify the proposed award; (2) should several persons enter inventions of equal value, the jury, as it shall consider right and just, may award a portion of the prize to each; (3) should none of the inventions entered be of sufficient value to entitle it to the prize, the jury may reject any and all of them, but at the same time shall be empowered to indemnify competing inventors in such amounts as may be deemed advisable. The instructions to competitors will be issued in due course by the jury, with the sanction and approval of the authorities of the French Exhibition. These will be distributed upon application. Correspondence, however, may be addressed to the members of the jury at Paris, or to Mr. Charles J. Bell, President of the American Security and Trust Company, No. 1405 G Street, Washington, D. C.

UNIVERSITY AND EDUCATIONAL NEWS.

THE will of Dr. Calvin Ellis, formerly Dean of the Harvard Medical School, has only recently been probated, though his death occurred some years ago. It leaves about \$140,000 to